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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,303	06/28/2004	Toshimasa Sakayori	042471	9869
38834	7590	04/05/2006		
WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP 1250 CONNECTICUT AVENUE, NW SUITE 700 WASHINGTON, DC 20036			EXAMINER TADESSE, YEWEBDAR T	
			ART UNIT 1734	PAPER NUMBER

DATE MAILED: 04/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/500,303

Applicant(s)

SAKAYORI ET AL.

Examiner

Yewebdar T. Tadesse

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 8-10 is/are rejected.
- 7) ☒ Claim(s) 6-7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2, 5, 8 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Kitamura et al (US 6,139,639).

With respect to claim 1, Kitamura et al discloses (see Abstract, Figs 1-3, columns 7-8, starting line 61) a material application apparatus that applies a material from a discharge port of the nozzle along a predetermined movement track on the surface while performing relative displacement of a surface of workpiece disposed on a base and a nozzle with respect to each other (a coating machine with lifting mechanism 26 and servomotor 18 for relatively moving the die 40 and the substrate on a table respectively to produce coating within a predetermined coating area), wherein the discharge port is formed into a non-circular configuration (rear lip 60 shaped into a downward slope 72 inclined towards the outlet 66) and capable of forming bead having a sectional configuration in which the height is larger than 0.9 times the width; wherein the distance between the discharge port and the surface is 1.5 –3 times the height (see column 14, lines 7-30, Fig 3) and the nozzle is parallel to the surface; and the bead is elongated in a line parallel to the surface (see Figs 2-3). It is well known in the art in the application of viscous materials onto a substrate with a die or nozzle that the height and

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width of a bead dispensed from the nozzle depend on the types of shims used. For instance – Hadzimihalis et al (US 4,844,004) teaches (see column 3, lines 15-28, Fig 3, claim 7) that the height and width of the beads of material dispensed from the nozzle may be easily varied by simply changing from one shim to another. Kitamura et al teaches the use of shim to adjust the gap of the slot (see column 13, lines 23-28, by adjusting the gap with different type of shims, different sizes of bead can be dispensed). As such Kitamura et al's applicator or die is capable of forming beads having a sectional configuration in which the height is larger than 0.9 times the width by exchanging different shims.

As to claim 2, Kitamura et al discloses (see Abstract, Figs 1-3, columns 7-8, starting line 61) a material application apparatus for applying a material to a surface of a workpiece disposed on a base and a movement means for relatively moving the application means along a predetermined movement track on the surface so as to apply the material into a bead configuration (a coating machine with lifting mechanism 26 and servomotor 18 for relatively moving the die 40 and the substrate on a table respectively to produce the material into a bead configuration). Furthermore, Kitamura et al discloses (see Fig 1) an application means (coating machine) including a syringe (syringe pump 44), a nozzle (die 40) connected to the syringe (syringe pump 44), and a nozzle (die 40) adapted to rotate (see column 8, lines 22-24 and column 12, lines 45-51 for actuators rotating die) in the peripheral direction (a driving mechanism positioning the substrate in the desired area including peripheral edge of the substrate, see

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columns 7-8, starting line 61) while the syringe is not rotated in the peripheral direction thereof.

Regarding claim 5, in Kitamura (see Fig 2) the nozzle is rotatable in the peripheral direction (desired area) by a motor provided with an output shaft (guide rods within a casing 28) positioned parallel to the nozzle (40) and by a drive force transmission member (die holder 32).

As to claim 8, Kitamura et al's device is capable of using material having a viscosity of 10000 cP-400000 cP in degree of viscosity, and to 4-10 in thixo-index.

Regarding claim 10, Kitamura discloses (see Fig 3 and column 14, lines 20-30) the space distance between the discharge port and the surface is set to around 1.2-10 (overlapping the claimed gap of 1.5-3) times as the coating thickness (height of the bead).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

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under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitamura et al (US 6,139,639) in view of Hosogaya et al (US 5,634,976). Kitamura et al discloses (see column 8, lines 9-24) a rotatable nozzle (die 40), wherein the first end portion precedes the second portion throughout the movement track. However, in Kitamura et al a discharge port of the nozzle formed into a profile in which the first end portion positioned at the front side is wider than the second end side positioned at the rear end side and the rotation of the is not taught. Hosogaya et al discloses (see Fig 2) and a nozzle 2 having a discharge port in which the first end portion positioned at the front side is wider than the second end side positioned at the rear end side. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a discharge port of a nozzle having structure wherein the first end portion positioned at the front side is wider than the second end side in Kitamura et al to prevent the film thickness from becoming irregular as taught by Hosogaya et al (see Column 2, lines 21-26).

6. Claims 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kitamura et al (US 6,139,639) in view of Maeda et al (US 4,692,351). Kitamura et al discloses a

controller (computer 54) controlling the positioning of the nozzle (die 40) and the substrate relative to each other, which is capable of controlling the discharge rate of the material from the discharge port by controlling the operation of the pump (44).

However, the discharge speed or rate of the material and the relative displacement speed of the surface and the nozzle adapted to coincide with each other is not taught in Kitamura et al. In any event, it is well known in the art to control the discharge rate of the material from the discharge port relative to the displacement speed of the surface and the nozzle wherein the discharge speed or rate of the material and the relative displacement speed of the surface and the nozzle adapted to coincide with each other, such as shown by Maeda et al (see Abstract, Fig 6 and column 4, lines 44-68). It would have been obvious to one of ordinary skill in the art at the time the invention was made to maintain the discharge speed or rate of the material and the relative displacement speed of the surface and the nozzle coinciding with each other to uniformly apply coating material as desired.

***Allowable Subject Matter***

7. Claims 6-7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: see reasons for allowance described on the action mailed 11/17/2005.

***Response to Arguments***

9. Applicant's arguments filed 08/16/2005 have been fully considered but they are not persuasive. Applicants argue that in Kitamura et al the clearance Lc is maintained within an overall range of 1.2 to a few tens times the coating thickness D and not the coating liquid bead C. Examiner respectfully disagrees because in Kitamura et al the height of the bead is considered to be the coating thickness D, in similar manner as shown by applicants' Figs 4 and 6, wherein the coating thickness is the height of the bead.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yewebdar T. Tadesse whose telephone number is (571) 272-1238. The examiner can normally be reached on Monday-Friday 8:00 AM-4: 30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Fiorilla can be reached on (571) 272-1187. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



YTT